

# The Pauropoda and symphyla of the Geneva Museum X

## A new species of Pauropoda from Austria (Myriapoda, Pauropoda, Brachypauropodidae)

by

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With 2 figures

### ABSTRACT

A new species in the genus *Brachypauropus* has been collected in Austria and is described here.

### INTRODUCTION

The representants of the genus *Brachypauropus* have not often been met with. The number of species is small and the species are rare. There are 6 valid species in all, 4 in Europe and 2 in North America. Of the European species *B. hamiger*, described by LATZEL in 1884 from Kärnten (between Klagenfurt and Wörthersee), has the largest range extending from Germany and Poland in the north to Spain and Greece in the south. However, it is never a common species. Though the range is smaller the same is true also of *B. superbis* Hansen (1902) which has been found in a few localities in France, Poland, Roumania and Italy. The other two species are even more rare: *B. occultus* is known in a single specimen from Tatra

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National Park in southernmost Poland (RAFALSKI 1977) and *B. strebeli* in 3 specimens from two localities in western Germany (HÜTHER 1971, 1982). All these European finds are probably, like the North American ones, from areas never glaciated in the Late Pleistocene. The species of the genus *Brachypauropus* may all have survived at least the Würm-Wisconsinan glaciation where they now live.

Fam. BRACHYPAUROPODIDAE  
 Subfam. Brachypauropodinae  
 Genus **Brachypauropus** Latzel, 1884

**Brachypauropus meyeri** n. sp.

**Type locality.** Austria, Tirol. The specimens have been extracted from soil samples taken in a poplar-willow-riverine forest (*Salici-Populetum*, *Salix alba*, *S. fragilis*, *Alnus incana*, *Populus nigra*) along the river Inn at the border of the northern Alps near Langkampfen/Kufstein (500 m a.s.l.). The herb layer is dominated by *Rubus caesius*, *R. idaeus* and *Urtica dioica*. The soil conforms to a sandy-silty Paternia with Mull humus and is covered by a thin litter layer of leaves. The annual high water of the Inn does normally not inundate the forest soil.

**Type material.** *Holotype.* Austria, Tirol, near Langkampfen/Kufstein, depth 0-7 cm, ad. 8<sup>1</sup> (♂), 26.V.1988, leg. E. Meyer. *Paratypes.* Same place and date as holotype, depth 0-7 cm, 15 ad. 8 (5♂, 10♀), 3 juv. 6; same place and date as holotype, depth 8-15 cm, 2 ad. 8 (♂, ♀), 1 juv. 6; same place as holotype, depth 8-15 cm, 2 ad. 8 (♂, ♀), 23.VII.1988. Holotype and paratypes in the collections of Muséum d'Histoire naturelle, Genève, one adult paratype in author's collection.

**Diagnosis.** The new species is close to *B. strebeli* described from Germany (Pfalz, Gausalgesheimer Kopf) by HÜTHER in 1971 (earlier mentioned from there by REMY in 1961 s. n. *Brachypauropus hamiger* Latzel and later collected also at Bausenbergs in the Eifel). *B. meyeri* is easily distinguished from *B. strebeli* by having 1. the median anterior part of tergite II distinctly divided (undivided in *strebeli*); 2. posteriorly directed processes on the hind margins of all the submedian sclerites of the tergites II-IV (II none, III?, IV with); 3. submedian setae in the posterior row on tergite V furcate (triangularly spatulate with small posteromedian indentation); 4. anal plate distally incised (pointed, without incision); 5. different shape and size proportions of the setae of the tergal side of the head.

**Etymology.** Dedicated to Univ.-Doz. Dr. Erwin Meyer who collected the new species.

**Length.** (0.66–) 0.69 (–0.72)<sup>2</sup> mm.

**Head.** Tergal and lateral sides with 25 setae arranged as in fig. 1a. Relative lengths and shape of setae, 1st row:  $a_1 = 10$ , cylindrical, blunt, annulate;  $a_2 = (22 - ) 23 (- 24)$ , subcylindrical, glabrous; 2nd row:  $a_1 = (27 - ) 28 (- 30)$ , lanceolate, winged, glabrous;  $a_2 = (9 - ) 10$ , cylindrical, blunt, sparsely pubescent; 3rd row:  $a_1 = (7 - ) 8 (- 10)$ , subcylindrical, blunt, glabrous;  $a_2 = (24 - ) 26 (- 27)$ , lanceolate, winged, glabrous; 4th row:  $a_1 = (22 - ) 23$ , lanceolate, winged, glabrous;  $a_2 = 10-11 (- 12)$ , subcylindrical, glabrous, blunt; the posterolateral group of setae consists of a very short tapering glabrous seta and

<sup>1</sup> Abbreviations: ad. ... and juv. ... , an adult or a juvenile specimen with the number of pairs of legs indicated.

<sup>2</sup> Range of variation in adult paratypes in brackets.

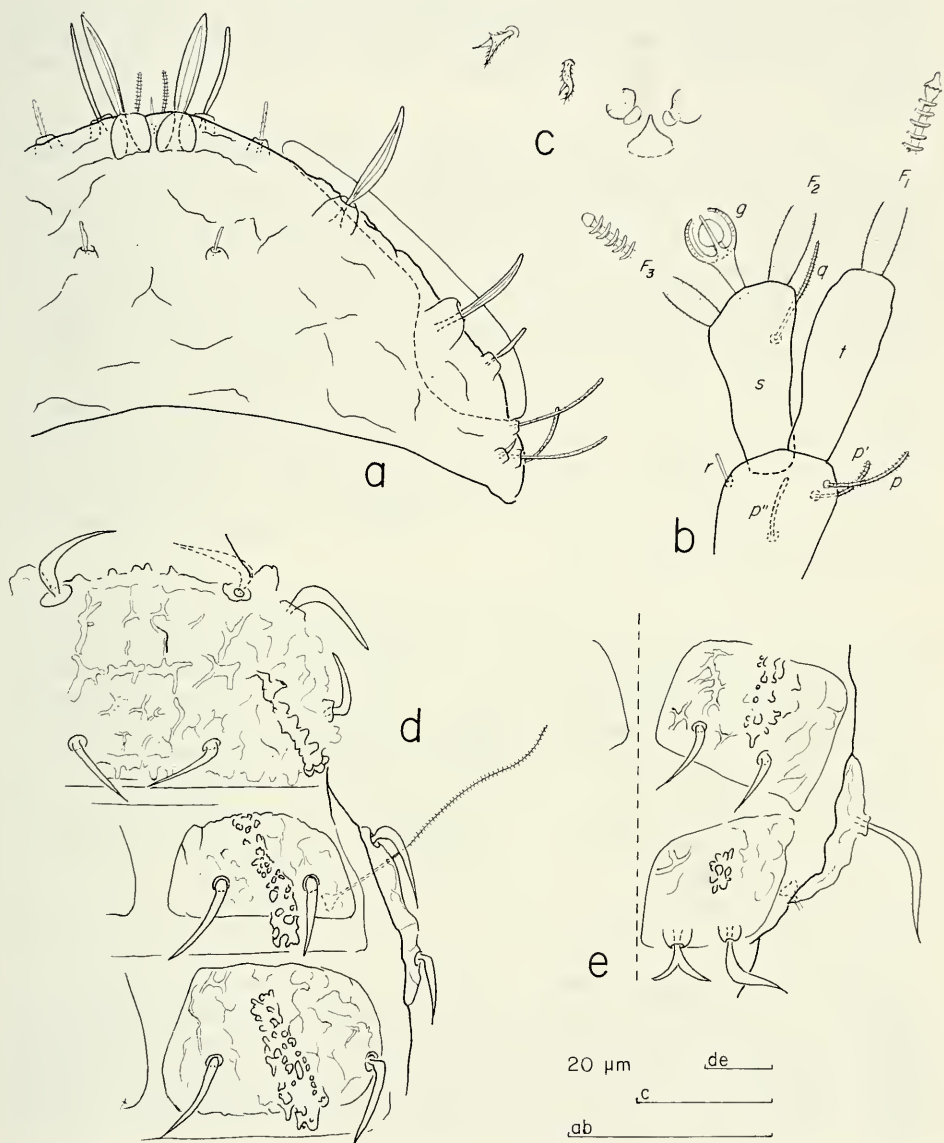


FIG. 1.

*Brachypauropus meyeri* n. sp., holotype. *a*, head, median and right part, tergal view. *b*, left antenna, tergal view. *c*, collum segment, median and right part, sternal view. *d*, tergites I and II with  $T_1$ , right half. *e*, tergite V, right half.

3 longer cylindrical ones (relative length of the latter 20, 21 and 16). In 1st row  $a_1$  are twice longer than distance  $a_1-a_1$ , in the following rows this ratio is 3.5, 0.2 and 0.2 respectively. Temporal organs with an anterior tubelike appendage a little longer than the organ; posterior part not separated from head surface. Tergal side of head sparsely wrinkled.

**A n t e n n a e .** Segment 3 with 2 cylindrical, annulate, blunt setae. Segment 4 with 4 such setae, their relative lengths:  $p=100$ ,  $p'=67$  (-90),  $p''=77$  (-87),  $r=(30-)$  33 (-37). In a paratype specimen there is also a short seta  $u$  (relative length = 15). Tergal seta  $p$  0.4 (-0.5) of length of tergal branch  $t$ . The latter subcylindrical, (2.5-) 2.7 times as long as wide, as long as sternal branch  $s$ . The latter a little clavate, 2.3 times as long as wide with a short posterodistal truncation; its seta  $q$  inserted 1/3 from distal end, cylindrical, tapering, densely annulate; its length is 0.6 of length of  $s$ . Relative lengths of flagella (base segments included) and base segments:  $F_1=100$ ,  $bs=(11-)$  12;  $F_2=(78-)$  84,  $bs=(13-)$  14;  $F_3=(63-)$  68,  $bs=(9-)$  10 (-11). The  $F_1$  (2.8-) 3.0 (-3.3) times as long as  $t$ ,  $F_2$  and  $F_3$  2.5 and (1.8-) 2.1 times as long as  $s$  respectively. Distal calyces glabrous, those of  $F_1$  and  $F_2$  conical with narrow top, those of  $F_3$  with rounded top. Globulus  $g$  with slender stalk, 1.9 (-2.1) times as long as its greatest diameter, 0.5 (-0.6) of length of  $s$ , its greatest diameter 0.7 (-0.8) of diameter of  $t$ ; 8 bracts. Globulus of 3rd segment rudimentary. Antennal stalk,  $t$  and  $s$  glabrous, basal segments of flagella and bracts with faintly granular cuticle.

**T r u n k .** Setae of collum segment short furcate with a basal subcylindrical part which is about as long as main branch; the latter tapering, pointed; secondary branch short, pointed; basal part and main branch with distinct oblique pubescence, secondary branch glabrous. Sternite process very narrow, pointed, glabrous; sternite appendages with small glabrous submedian ends and wider faintly granular bases. Each tergite except I and V subdivided into 3 pairs of chitinized plates: 2 submedian halfmoonshaped-subrectangular, one lateral narrow. Tergite I with 4+4 setae; tergites II-IV with 6+6 setae, 2 setae on each subtergite and 2 at bases of each trichobothrium; tergite V with 6+4 setae, 2 setae on each subtergite and one anterior of each  $T_5$ . Except the posteromedian pair on tergite V these setae are curved, hornlike, thickest near base or at least in basal half, tapering, pointed, glabrous (posterolateral setae of this tergite may have two secondary jags). The two posteromedian setae of tergite V broadly furcate (in several paratype specimens of deviating shape, fig. 2a). Cuticle of tergites wrinkled with 2 oblique rows lengthways of irregular protuberances on tergite I and the submedian subtergites of tergites II-V. On the latter they protrude backwards outside hind margin on tergites II-IV. Relative lengths of trichobothria:  $T_1=100$ ,  $T_2=(97-)$  110,  $T_3=(77-)$  88 (-90),  $T_5=(93-)$  115. These setae except  $T_3$  with very thin simple axes; proximal 1/3 glabrous, distal 2/3 with thin erect pubescence hairs. The  $T_3$  with thin axis except for a large swelling at the middle; swelling granular, nearest part of proximal axis with short oblique pubescence; distal part as that of other trichobothria.

Penes well developed, 1.3 times as long as wide; distal seta 0.4 of length of organ.

**L e g s .** All legs 5-segmented. Setae on coxa and trochanter of 8th pair of legs simple; bases thickest, ovoid; middle and distal parts cylindrical, annulate. In anterior legs these setae are similar but with a short, pointed, glabrous secondary branch. Tarsus of 8th pair of legs subcylindrical, tapering in distal 1/4, (2.6-) 2.8 (-2.9) times as long as

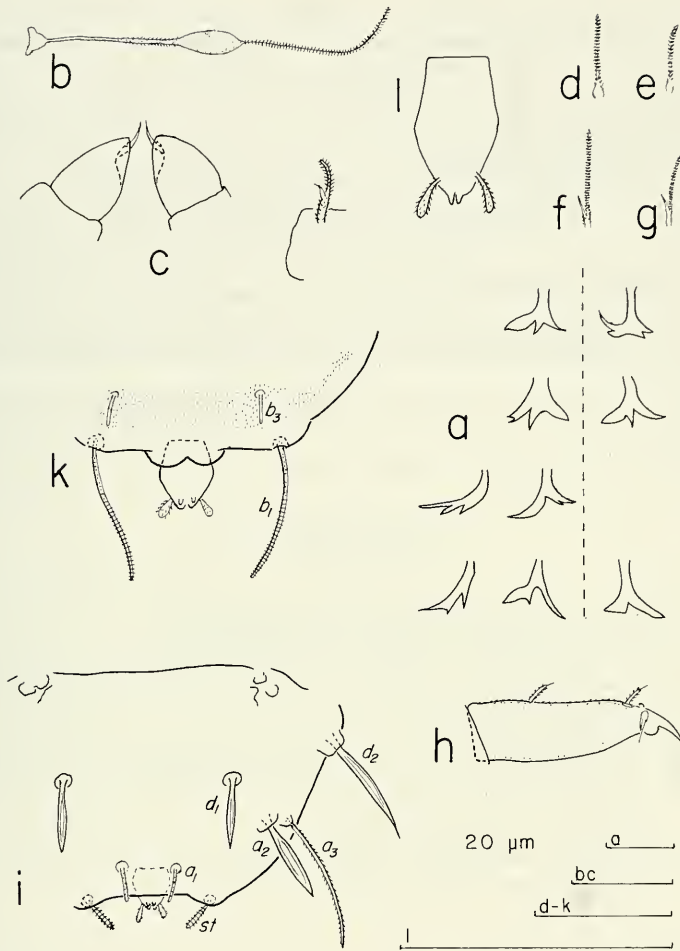


FIG. 2.

*Brachypauropus meyeri* n. sp. *a*, paratypes, *b-l*, holotype. *a*, deviating setae in the posterior row on tergite V in paratype specimens. *b*,  $T_3$ . *c*, penes and seta on coxa of 2nd pair of legs, anterior view. *d*, seta of coxa of 8th pair of legs. *e*, seta of trochanter of 8th pair of legs. *f*, seta of coxa of 3rd pair of legs. *g*, seta of trochanter of 3rd pair of legs. *h*, tarsus of 8th pair of legs. *i*, pygidial tergum, tergal view. *k*, pygidial sternum, posterior and left part, sternal view. *l*, anal plate, tergal view.

its greatest diameter. Setae subequal, pointed, with oblique pubescence and a longer apical hair; proximal seta (0.1–) 0.2 of length of tarsus and 1.3 times as long as distal seta. Cuticle of tarsus shortly pubescent.

**Pygidium.** Tergum. Hind margin indented and straight between *st*; cuticle glabrous. Relative lengths of setae:  $a_1 = 10$ ,  $a_2 = (27 -) 28 (-29)$ ,  $a_3 = (37 -) 41 (-42)$ ,  $st = (10 -) 11 (-12)$ ,  $d_1 = (18 -) 21$ ,  $d_2 = (35 -) 36 (-38)$ . The  $a_1$ ,  $a_3$  and *st* cylindrical,



blunt,  $a_1$  and  $a_3$  thin, faintly pubescent,  $st$  thicker, annulate;  $a_2$ ,  $d_1$  and  $d_2$  long, lanceolate, winged;  $st$  converging,  $a_2$  slightly converging;  $a_2$ ,  $a_3$  and  $d_2$  diverging. Distance  $a_1-a_1$  (1.4-) 1.6 (-1.7) times as long as  $a_1$ , distance  $a_1-a_2$  1.9 (-2.0) times as long as distance  $a_2-a_3$ ; distance  $st-st$  (2.8-) 3.1 (-3.3) times as long as  $st$  and (2.0-) 2.1 times as long as distance  $a_1-a_1$ . Distance  $d_1-d_1$  (0.4-) 0.5 (-0.6) of length of  $d_1$  and a little longer than distance  $d_1-d_2$ .

Sternum. Posterior margin between  $b_1$  straight but with a median posterior distinctly twoparted lobe; margins glabrous, the rest shortly pubescent. Relative lengths of setae (pygidial  $a_1=10$ ):  $b_1=41-44$  (-48),  $b_3=9$  (-10). No  $b_2$ . These setae cylindrical, blunt;  $b_1$  in distal part annulate,  $b_3$  with oblique pubescence. The  $b_1$  0.8 (-0.9) of distance  $b_1-b_1$  and  $b_3$  0.2 of distance  $b_3-b_3$ . Anal plate 1.7 times as long as broad, pentagonal, broadest at middle; wedgeshaped posterior half with small distal incision and two subapical, diverging, clavate appendages which are curved inwards and provided with a short oblique pubescence.

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